PROCEEDINGS OF THE SEMINAR HELD ON 19TH NOVEMBER 2012

MANAGEMENT AND OPERATION OF HANOI'S MASS TRANSPORT SYSTEM
ACKNOWLEDGEMENTS

We thank the following people for their participation in the seminar:

Mr NGUYEN Quang Manh, General Director of Hanoi Metropolitan Railway management Board (MRB)
Mr Grégory CLEMENTE, Asia Director of Agence Française de Développement (AFD) (French Development Agency)
Mr Bernard RIVALTA, President of the Syndicat des Transports de l’Agglomération Lyonnaise (SYTRAL) (Transport Federation of Lyon Metropolitan Area)
Ms Véronique HAMAYON, General Secretary of the Syndicat des Transports de la région Île-de-France (STIF) (Transport Federation of Île-de-France Region)
Mr Thierry MOQUINAUX, Project Manager for the Véolia Transdev-RATP Asia (VTRA) joint venture
Mr Emmanuel VIVANT, Director of Hong Kong tram network for Véolia Transdev-RATP Asia (VTRA)

We thank the following people for organising the seminar:

Mr Jean-Claude PIRES, Deputy Director of AFD in Hanoi
Mr Kamel BOUHMAD, AFD Project Manager in Hanoi
Ms Fanny QUERTAMP, Co-Director of the Research and Support Centre for Urban Development in Ho Chi Minh City (PADDI)
Mr Jean-Claude GAILLOT, Deputy General Director of the Sustainable Planning Unit, Île-de-France region
Mr Emmanuel CERISE, Co-Director of the Institute of Urban Professions in Hanoi (IMV Hanoi)
Mr Yann MAUBLANC, Research Manager for Transport at the Institute of Urban Professions in Hanoi(IMV Hanoi)

This document was prepared by:

Mr Julien ALLAIRE, Executive Manager at CODATU

With the support of:

Mr Jean-Michel CUSSET, Specialist in urban transport in developing countries
Mr Charles SIMON, project manager at CODATU

The views and opinions expressed in this publication are those of the authors and not necessarily those of the Agence Française de Développement.
### ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
</tr>
<tr>
<td>AFD</td>
<td>Agence Française de Développement (French Development Agency)</td>
</tr>
<tr>
<td>AOT</td>
<td>Autorité Organisatrice de Transport (Transport Authority)</td>
</tr>
<tr>
<td>OCC</td>
<td>Operation Control Centre</td>
</tr>
<tr>
<td>EIB</td>
<td>European Investment Bank</td>
</tr>
<tr>
<td>BRT</td>
<td>Bus Rapid Transit</td>
</tr>
<tr>
<td>HPC</td>
<td>Hanoi People’s Committee (Comité Populaire de Hanoï)</td>
</tr>
<tr>
<td>IMV Hanoï</td>
<td>Institut des Métiers de la Ville d’Hanoï (Hanoi Institute of Urban Professions)</td>
</tr>
<tr>
<td>JICA</td>
<td>Japan International Cooperation Agency</td>
</tr>
<tr>
<td>LRT</td>
<td>Light Rail Transport</td>
</tr>
<tr>
<td>MOT</td>
<td>Ministry of Transports</td>
</tr>
<tr>
<td>MRB</td>
<td>Metropolitan Railway Management Board</td>
</tr>
<tr>
<td>MRT</td>
<td>Metro Rail Transport</td>
</tr>
<tr>
<td>PADDI</td>
<td>Research and Support Centre for Urban Development in Ho Chi Minh City</td>
</tr>
<tr>
<td>PDUIF</td>
<td>Plan de Déplacements Urbains de l’Île-de-France (Île-de-France Urban Transport Plan)</td>
</tr>
<tr>
<td>PPP</td>
<td>Public Private Partnership</td>
</tr>
<tr>
<td>RER</td>
<td>Réseau Express Régional (Regional Train Network in Paris)</td>
</tr>
<tr>
<td>STIF</td>
<td>Syndicat des Transports de l’Agglomération d’Île-de-France (Transport Authority of Île-de-France Metropolitan Area)</td>
</tr>
<tr>
<td>SYTRAL</td>
<td>Syndicat des Transports de l’Agglomération Lyonnaise (Transport Authority of Lyon Metropolitan Area)</td>
</tr>
<tr>
<td>TRAMOC</td>
<td>Transport Management and Operation Center</td>
</tr>
<tr>
<td>VNRA</td>
<td>Vietnam National Railway Administration</td>
</tr>
<tr>
<td>VTRA</td>
<td>Veolia Transdev-Ratp Asia</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>3</td>
</tr>
<tr>
<td>ACRONYMS</td>
<td>4</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>5</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>6</td>
</tr>
<tr>
<td>I - CHALLENGE OF INTEGRATING TRANSPORT NETWORKS</td>
<td>7</td>
</tr>
<tr>
<td>Three levels of action: strategic, tactical and operational</td>
<td>7</td>
</tr>
<tr>
<td>II - STRATEGIC LEVEL: TRANSPORT POLICY IN HANOI</td>
<td>9</td>
</tr>
<tr>
<td>Territorial and administrative organisation</td>
<td>9</td>
</tr>
<tr>
<td>Urban transport: a major challenge for Hanoi city</td>
<td>9</td>
</tr>
<tr>
<td>The decision to develop public transport</td>
<td>10</td>
</tr>
<tr>
<td>Case study 1: Transport policies in the Île-de-France region</td>
<td>13</td>
</tr>
<tr>
<td>III - TACTICAL LEVEL: THE TRANSPORT AUTHORITY</td>
<td>14</td>
</tr>
<tr>
<td>Essential considerations in creating a transport authority</td>
<td>14</td>
</tr>
<tr>
<td>What sort of transport authority for Hanoi?</td>
<td>16</td>
</tr>
<tr>
<td>Case study 2: Operation of STIF</td>
<td>19</td>
</tr>
<tr>
<td>Case study 3: operation of SYTRAL</td>
<td>21</td>
</tr>
<tr>
<td>IV - OPERATIONAL LEVEL: TRANSPORT OPERATORS</td>
<td>23</td>
</tr>
<tr>
<td>What is the operator’s role?</td>
<td>23</td>
</tr>
<tr>
<td>Case study 4: public service delegation in Lyon</td>
<td>26</td>
</tr>
<tr>
<td>Case study 5: Seoul metro line 9</td>
<td>28</td>
</tr>
<tr>
<td>Case study 6: the operation of the Hong Kong tram network</td>
<td>29</td>
</tr>
<tr>
<td>Case study 7: operation of Paris metro line 7</td>
<td>30</td>
</tr>
<tr>
<td>CONCLUSIONS</td>
<td>31</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>32</td>
</tr>
<tr>
<td>ORGANISEURS</td>
<td>33</td>
</tr>
<tr>
<td>Agence Française de Développement (AFD)</td>
<td>33</td>
</tr>
<tr>
<td>CODATU</td>
<td>33</td>
</tr>
<tr>
<td>PARTNERS</td>
<td>34</td>
</tr>
<tr>
<td>IMV, Institut des métiers de la ville (Institute of Urban Professions)</td>
<td>34</td>
</tr>
<tr>
<td>PADDI, Research and Support Centre for Urban Development</td>
<td>34</td>
</tr>
</tbody>
</table>
AFD wished to organise this seminar in order to support Hanoi People’s Committee in choosing a future transport system, stressing the importance of the creation of a co-ordinated network. The aim of this day was to present potential means of putting in place the future transport network in the capital of Vietnam, drawing on examples from France and eastern Asia.

The day was opened by Mr NGUYEN Quang Manh, General Director of Hanoi Metropolitan Railway management Board (MRB) and Grégory CLEMENTE, Asia Director of the French Development Agency (AFD). The debate was introduced by a presentation on urban mobility and institutional organisation of mass transit in Hanoi by Julien ALLAIRE, Executive Manager of CO-DATU.

Two representatives from French transport authorities then shared their perspectives with the seminar participants. Bernard RIVALTA, President of the Transport Authority of the Lyon Metropolitan Area (SYTRAL), presented the institutional organisation of transport in the Lyon area and the convention on the delegation of public services to a public transport operator. Véronique HAMAYON, General Secretary of the Transport Authority of Île-de-France Metropolitan Area (STIF), then presented the situation in the Paris metropolitan area and the management of the Paris transport network.

The question of the institutional organisation and the management of mass transit networks was then dealt with from the operators’ perspective, with a presentation by Thierry MOCQUIAUX, Project Manager of RATP, on the operation of the transport network in Paris. Emmanuel VIVANT, Director of the tram network in Hong Kong, then shared his perspective on the Véolia Transdev-RATP Asia (VTRA) joint venture in Seoul and Hong Kong. Mr NGUYEN Quang Manh concluded the day’s proceedings by responding to the different schemes presented and by thanking all the contributors. MRB’s General Director emphasised Hanoi’s need to put in place a governing system for public transport to facilitate the operation of the metro network in the short term and achieve modal shift targets in the long term.
I - CHALLENGE OF INTEGRATING TRANSPORT NETWORKS

Creating an integrated transport network helps to increase the appeal of public transport as opposed to individual means of transport. An integrated public transport network undoubtedly reaches a larger quantity of service users since it simplifies understanding and access to the transport system and reduces the time taken for intermodal journeys. The integration of networks is an essential element in the success of a multimodal transport policy.

From the point of view of the service user, this integration means, on the one hand, well-coordinated timetables, fares and information and on the other hand, the creation of station facilities which allow for easy interconnections between lines and modes of transport.

From the point of view of transport professionals, this integration is an essential part of ensuring that the costs of operating the transport system are met. Collective transport networks appeal to a wider public, whilst offering the possibility of collaborative projects and economies of scale.

When integration is absent, 'physically' (connections at stations), as well as 'systematically' (ticketing) or 'financially' (fare tables), transport modes may compete with each other. In this case, the operating result of each of the participating companies is directly threatened. Therefore, integrated networks are synonymous with economic efficiency.

In 2012, at the current stage of development of mass transit projects (metro and bus), the authorities of the Vietnamese capital are already facing choices which will have a major impact on the level of integration in the transport network in 2020. Several questions are now being asked:

- How much integration and/ or co-ordination between public authorities should be recommended? Can the management of bus and metro networks be immediately conferred to a single authority? Must this authority also have wider influence over all types of transport?
- Which questions currently under review should be dealt with in a coordinated manner? Which standards should be put in place? How should construction be managed with different project managers?
- How should metro networks be operated and maintained? Can the involvement of several different companies present a financial risk? Should operation control centre (OCC) for the urban rail network be centralised?
- What should be the target for levels of fare integration? Which ticketing system should be put in place?

Depending on local contexts, a unified transport system can be achieved through institutional integration, coordination between actors or by delegation of skills. These three possibilities can be used for different sorts of actions.

Three levels of action : strategic, tactical and operational

In order to contribute to the discussions of the Hanoi People’s Committee, we will now present a view of transport organisation on three levels: the strategic level, tactical level and operational level.
As the above table demonstrates, the strategic level corresponds to a longterm vision (10 years plus). At this level, political leaders define transport policies and targets for territorial coverage, envisaged modal range, target populations, accepted levels of funding and resources to be made available.

 integrates networks are synonymous with economic efficiency.

The tactical level applies to a mid-term vision (5 to 10 years). It involves defining the characteristics of the transport system which can provide solutions to the pre-defined targets. At this level, modes of transport are chosen, as well as the network map, the fare tables, the timetables, the frequency and type of service offered. The responsibility for this tactical level lies mostly with the administration. However, the latter can also call for contributions from its partners in order to define the tactical reference frame.

Finally, the operational level is intended to develop all appropriate means of meeting the needs described at the tactical level. Specifically, at this stage, transport services are put in place as efficiently as possible. The public or private operator which intervenes at this stage is responsible for the management of staff, the stock of vehicles, maintenance of infrastructure, etc.

These three levels of action, which correspond to three different temporal frameworks, can be led by different institutions. They can also involve negotiations between players in order to optimise the implementation of the transport policy. Besides the involvement of political representatives in the creation of the urban development strategy on the one hand, and the associated transport policy on the other hand, two other types of stakeholder can be identified: the transport authority and operators.

We will now further develop the subject of the transport authority, whose gradual implementation is highly recommended, and the role it can assign to the operators.
II - STRATEGIC LEVEL:
TRANSPORT POLICY IN HANOI

Territorial and administrative organisation

The population of Hanoi province is currently 6.2 million (of which 2.6 million live in urban districts) whilst Ho Chi Minh City has nearly 9 million inhabitants. Today, these two urban centres, situated 1,750 km apart, are experiencing serious demographic pressures, linked notably to 'temporary' migrants who, in Ho Chi Minh City, account for 10% of the population.

The provision of essential services for urban populations is therefore at the heart of Vietnamese concerns. The provision of quality accommodation, drinking water, hygiene services, collection and treatment of waste, etc. is a major challenge for local and national public authorities. Amongst these services, the management of transport is today one of the main challenges.

On 1st August 2008, the National Assembly of Vietnam passed a vote on increasing the area of the capital’s province to include the bordering province Ha Tay. The area of Hanoi city has been tripled by the inclusion of these surrounding districts and the urban population has doubled. Before this territorial expansion, Hanoi had a population of 3.4 million spread over 985 km²; now there are 6.2 million inhabitants in an area of 3,330 km².

Hanoi is one of five Vietnamese cities holding the status of a province. The city is governed by the People’s Committee, an executive body of the Hanoi People’s Council, which elects its members internally. The president of the People’s Committee is chosen by the People’s Council, for a term of four years. From an administrative point of view, the area is divided into ten urban districts and 18 neighbouring rural districts. The tripling of the area of the capital had an impact on transport services, particularly concerning the link between the centre of Hanoi and Ha-Dong, the main town of the newly included province.

Urban transport: a major challenge for Hanoi city

In terms of urban transport, both of Vietnam’s major cities are confronting rising congestion. Questions of mobility in Vietnam have become one of the priority issues in the Socialist Republic.

Whilst, until the 1980s, transport in Hanoi city relied on non-motorised individual means of transport, mostly the bicycle, and public transport (including several tram lines), economic liberalisation in 1986 (Doi Moi) resulted in an exponential rise in the use of motorised two-wheeled transport. Today this means of transport is firmly rooted in the Vietnamese lifestyle. Its two main advantages are its affordability for the majority of the population and its suitability to the urban environment, characterised by small streets.

Figure 2: Motorisation au Vietnam (1996-2007)
En 2009, there were more than 3.7 million motorbikes in Hanoi, or 600 per 1,000 inhabitants. In 2010, the modal proportion of motorbikes was 78%. The dominance of this form of transport creates various difficulties in terms of traffic management. There have been equally catastrophic consequences in terms of road safety. In 2006, Hanoi city recorded more than 1,000 road traffic accidents which were responsible for 500 deaths and 700 accidents. These accidents mostly take place on the main roads leading into Hanoi from suburban areas, where traffic moves at greater speed.

Hanoi People’s Committee chose to develop its public transport network.

Moreover, road traffic is responsible for almost all the nitrogen oxide emissions in Hanoi. Particle emissions in the air (PM10) frequently reach double the maximum level set by the authorities. According to the Global Environmental Outlook published by UNEP in 2007, Hanoi and Ho Chi Minh City are amongst the six world cities with the most polluted air.

Another issue faced by the authorities is the rise in the proportion of cars in recent years. Despite the policy of limiting the importation of cars into Vietnam by the imposition of high customs duties, the number of cars in Hanoi is growing annually by 13%. This trend is problematic since it drastically increases congestion and accidents. It could send the Vietnamese capital into utter traffic chaos.

The decision to develop public transport

The dramatic development of the bus network

In 2006, the government issued successive targets for modal share, which favoured public transport. At first, it was announced that the modal share of public transport should reach 50% in 2020. This aim was then reduced to 30% in the following years. As shown by figure 3, public transport accounted for 10% of mechanical modal share in 2010 (it should be noted that walking is a relatively rare means of transport in Hanoi). The target is therefore to achieve a tripling of the modal share of public transport. Since 2000, Hanoi People’s Committee therefore chose to concentrate on the development of its public transport network. As such, the bus network has seen major development:

- Three ‘pilot’ lines were established with help from the Île-de-France region and German cooperation through the European program Asia trans.
- A transport authority, TRAMOC, was created.
- The majority of operators were consolidated under the authority of the company TRANSERCO.

1 In the context of the year of Road Safety in 2012, the president of Hanoi People’s Committee, Nguyễn Thùy Thao, announced that the city aims to reduce accidents, deaths and injuries by at least 10% and congestion by 20%...

2 NGUYEN Thi Thanh Huong (2011)
A similar model to the European transport authority/operators model was put in place. Large sums, increased each year, are being paid to the operators.

TRAMOC transport authority and the operators have significantly developed the service by combining the creation of new lines, the reorganisation of the network, increasing frequency and range of lines in new urban hubs, etc. The service quality, pricing and traveller information have also been improved. The impact this has had on the use of the bus network is striking. The number of trips has been multiplied by 30 in eight years, from 12 million in 2000 to more than 400 million in 2009.

The Hanoi region urban transport plan aims to implement major projects: 8 metro lines (MRT) covering a total of 160 km with 130 stations as well as 25 km of BRT lines. The entire network should be open to the public in 2030. Five projects are already in the research or construction stage and should begin service between 2014 and 2020 (cf. Figure 5).

These various projects are being undertaken by different contractors, in partnership with international funding agencies.

- **Metro line n°1 : Ngoc Hoi – Yen Vien, Nhu Quynh (38.7 km, 10 km of which is planned for phase 1)**:
  - This line should be operational in 2018. It is being constructed by Vietnam National Railway Administration (VNRA) and is financed by Japan International Cooperation Agency (JICA).

- **Metro line n°2 : Noi Bai – City centre – Thuong Dinh (35.2 km, 17 km of which is planned for phase 1)**:
  - This line should be operational in 2018. It is being constructed by the Metro Railway management Board (MRB) and is also financed by Japan International Cooperation Agency (JICA).

- **Metro line n°2a : Cat Linh – Thuong Dinh – Ba La (14 km)**:
  - This should be the first line to open. It is expected to be operational in 2014. Constructed by the Ministry of Transport (MOT), it is financed by a Chinese funding agency.

- **Metro line n°3 : Nhon – Hanoi Station – Hoang Mai (21 km, 12.5 km of which is planned for phase 1)**:
  - This line is being constructed by the Metro Railway management Board (MRB). It is expected to come into service in 2018. It is financed by French funding agencies (AFD and DG Trésor) and their partners the European Investment Bank (EIB) and the Asian Development Bank (ADB).

- **Metro line n°5 : South West Lake – Ngoc Kanh – Lang – Hoa Lac**:
  - This line will be constructed by the Ministry of Transport (MOT). The possibility of a PPP with Japanese funders is currently being researched.

---

3 Gaillot J-C. (2012), Hanoï, contexte et défis de la mobilité de la Capitale Vietnamienne (Hanoï, mobility context and challenges in the Vietnamese capital)
• BRT line: Ba La – Lang Ha – Kim Ma (13 km):
  This line is expected to open in 2014. Constructed by the Department of Transport (DOT) of Hanoi People’s Committee, it is being financed by the World Bank.

It will be a major challenge to implement this wide range of projects within a short time span, managed by different Vietnamese institutions and supported by various international funders. How will the different lines be integrated into a unified network? Various plans have been put forward, in particular for the operation and maintenance of metro and LRT lines. One of the goals of the seminar was therefore to present the factors involved in the integration of networks by inviting representatives of city authorities and foreign transport operators to shed light on the issue.
Case study 1: Transport policies in the Île-de-France region

Île-de-France region has a population of 11.6 million. With 6 million jobs in the region, it accounts for 29% of the gross national product and its area of 12,000 km² houses 22.5% of the working population. Every day, 41 million journeys are made by the region’s inhabitants. On average, an Île-de-France inhabitant makes 3.9 journeys per day (during the week). The average journey distance is 4.4 km. 39% of journeys are on foot, 38% by car, and 20% by public transport. Almost 8.3 million journeys are made every day by public transport. That’s an increase of 1.5 million since 2001, or a rise of 21%. Journeys by public transport are particularly long: the average distance increased from 8.7 km in 2001 to 9 km in 2010. These averages of modal share and distance conceal serious disparities between different areas.


The transport policy implemented by STIF is defined by the Île-de-France urban transport plan (PDUIF). The PDUIF is a document which plans and schedules the organisation of the region’s transport up to 2020. It affects all modes of passenger and goods transport: pedestrians, cyclists, public transport users, car drivers, etc. In the context of an estimated 7% increase in journeys on a global level, this planning document makes provision for a 20% rise in public transport journeys, a 10% increase in active means of transport (walking and cycling) and a decrease of 2% in car and motorbike journeys. The aim of this shift in modal share is to achieve a 20% reduction in greenhouse gas emissions due to transport by 2020.

In order to achieve the aim of increasing the modal proportion of public transport, STIF has set the target of increasing the services offered by 25% by 2020. STIF also wishes to facilitate use of public transport for all and, specifically, to improve the provisions for intermodal transport. In order to implement these changes, a 35% increase in operational costs is planned.


Figure 6: Main principles in PDUIF framework (STIF)

These changes must interact in order to meet the challenge of the urban travel patterns plan

Change the travel experience

1. Develop a city more conducive to walking, cycling and mass transit.
2. Make mass transit more attractive
3. Reemphasise the importance of walking in the travel chain
4. Revitalize cycling
5. Act on the conditions of use of individual motorised transport
6. Make all features of the travel chain accessible
7. Streamline planning of goods flow and promote the use of waterways and train

Change behaviours

8. Establish a governance system giving greater responsibility to stakeholders when implementing the PDUIF
9. Make people living in Île-de-France responsible for their travel patterns
Essential considerations in creating a transport authority

Looking at international examples, a wide variety of types of transport authorities are represented. In certain cases, the overarching city authorities take on responsibility for the strategic level and delegate the tactical functions to another institution; elsewhere the transport authority manages both the strategic and tactical level. In other cases, the transport authority can delegate more or less responsibility for the management of transport services to one or more operators. Here are several essential elements to consider when putting such a structure in place:

**How will the structure be created?**

In Europe, the three types of transport authority are differentiated according to the way in which they were established:

- Certain agencies were founded independently and work alongside the city administration (this is the case in the two examples presented below: Lyon and Paris).
- Others were formed through the gradual transformation of longstanding operators into transport authorities (for example, Stockholm, Milan, London and Brussels).
- In other transport authorities, transport is one important part of a range of responsibilities (for example, Copenhagen and Helsinki).

**What territorial area will be affected?**

It is particularly important to state the limits of this area. If the administrative boundaries do not include all of the urbanised zone, this will not allow for a global city policy; if the boundaries go beyond the urbanised zone, the transport authority may encounter difficulties in meeting the specific needs of less urbanised areas.

**What legal form will the transport authority take?**

Transport authorities may be a specialised public authority, a department of an existing authority, an organisation formed of several local authorities or a company established by the authorities. In order to ensure a central place is accorded to transport policy, it is recommended that those in charge of the transport authority have direct access to the elected representatives in charge of regional policy.

**Which partners will be involved?**

The composition of the Board of Directors or the distribution of shares will decide how the authority is governed. Certain transport authority Boards of Directors will involve different administrative levels (municipalities, regions etc.) whilst others will invite the participation of representatives of economic stakeholders, service users, etc.

**What expertise and responsibilities will the transport authority have?**

Different types of authority have different missions assigned to them. This is probably the most important element to consider in the creation of a transport authority. It is a determining factor in deciding on the various possible levels of integration: the transport authority’s expertise can be limited to the co-ordination of public transport, the organisation of all public transport services, or extend to all questions linked to mobility. The most integrated type of transport authority creates a direct institutional link between transport and urban development.
Moreover, the definition of the transport authority’s responsibilities will also determine the responsibilities of public or private operators. The transport authority can ask its operator(s) to take responsibility for the tactical level in order to concentrate on innovation and development strategies responding to the needs of service users.

**What financial resources will the transport authority have?**

The transport authority may be the recipient of the income collected by the operators and pay them back a fixed rate, or it can decide to leave the income to the operators and request a certain level of return according to levels of use or the service provided. The issue of ownership of income is therefore decisive in deciding the nature of the contract between the operator and the transport authority. Moreover, the transport authority can receive funding from central government or local authorities. Long-term planning should be made for the payment of this funding so that transport authorities can bring projects and investments to term. Finally, transport authorities may also have their own resources at their disposal.

The transport payment in France is often cited as an example. The transport payment is a tax calculated on the basis of the payroll of businesses and organisations with with nine or more employees working within the boundaries of the city transport network. The income from this tax accounts for more than 40% of the transport budget in large cities.

Moreover, emerging economies are increasingly developing tools specifically designed to finance urban transport. For example, the transport authority could manage the real estate capital linked to the mass transit network.

**What human resources and expertise are needed in the transport authority?**

The nature of the transport authority will depend on the provenance of the staff and on the level of outsourcing. By including general administrative staff and operators in the transport authority, the structure will benefit from a wide range of expertise. The level of outsourcing to local or foreign consultants will also affect the degree to which the transport authority is fully in possession of all expertise needed.
What sort of transport authority for Hanoi?

In Hanoi, the People’s Committee is the body responsible for the strategic level. It defines the transport policy which sets forth clearly-defined targets for both the mid and long-term. Strategic cohesion is promoted by the fact that the highest government body of Hanoi province is also responsible for transport policy.

However, at the tactical level, the provincial road network is managed by the transport department of the People’s Committee (apart from local service roads, which fall under the administration of the district People’s Committees), and the development of public transport is overseen by two different bodies: the Transport Management and Operation Centre (TRAMOC) for the bus and Hanoi Metropolitan Railway Management Board (MRB) for urban rail.

**TRAMOC: an administrative service charged with developing the bus network**

Established in 1998 by decree of the Hanoi People’s Committee (decision 3527/QD-UB-ND), TRAMOC is under the jurisdiction of the Department of Transport of Hanoi People’s Committee. Its missions are:

- planning and operating public transport schemes (road network and map, vehicles);
- management and distribution of income from public transport and funding sources;
- management of public transport infrastructure;
- issuing bus tickets;
- regulating, controlling and supervising the operation of public transport;
- implementing projects.

Currently, TRAMOC is not fully independent. Until 2008, the public operator TRANSERCO had the monopoly of Hanoi’s bus services, which meant that TRAMOC had no possibility to extend its regulatory powers. The operator has now been restructured to become the parent company of a group which includes around ten subsidiaries and collaborates with private companies in joint ventures. The company has also had to hand over some services to small private companies. In 2012 Hanoi had 64 lines, of which 49 were managed by TRANSERCO. Hanoi Bus Joint Stock Company, a company largely controlled by the People’s Committee, manages 6 lines. The nine others are operated by three private companies.

Research is currently being conducted into the possible development of TRAMOC into an “independent agency, financially strong and secure, having a high level of expertise in order to coordinate and organise the planning and operation of public transport in Hanoi”.

The most integrated type of transport authority creates a direct institutional link between transport and urban development.

**MRB: a transport authority for urban rail?**

On 22nd February 2012, decision 925/QD-UB-ND of Hanoi People’s Committee established the Hanoi Metropolitan Railway management Board (MRB) and strengthened the role of Hanoi Metropolitan Railway Transport Project Board (HRB). This decree defines the role of the MRB, a public body under the control of Hanoi People’s Committee. The MRB is charged with assisting Hanoi People’s Committee (the governing body) in the operation of the urban rail network project, from the planning stages up to construction and finally opening of the service.

The MRB should have the role of a project manager. It should manage, operate and maintain the urban rail network in Hanoi. MRB is therefore responsible for researching, developing, managing, operating and maintaining the urban rail system in Hanoi. The Hanoi People’s Committee also gave it the responsibility for liaising with

---

1 Mekin (2012), The Transition of TRAMOC to a Transport Authority: Principles and issues
Figure 8: Two kinds of institutional organizations (with -top- multimodal integration and without -bottom-)

Hanoi People ‘s Committee

Department of transport

TRAMOC

MRB

Other modes of transport

Bus

Department of transports

TRAMOC + MRB

Other modes of transport

Bus

Coordination of various public transport + other modes

Coordination Bus + Urbain Rail

STRATEGIC LEVEL

TACTICAL LEVEL

OPERATIONAL LEVEL
international funding agencies on issues linked to investment in the urban railway network and construction projects.

The MRB should cooperate with government ministries and authorities in order to draw up a proposal for the organisation of maintenance and management of Hanoi’s urban railway lines, which will be submitted to Hanoi People’s Committee. The MRB may also create units and subsidiaries to ensure the proper management, operation and maintenance of the urban railway after construction is completed.

MRB is responsible for researching, developing, managing, operating and maintaining the urban rail system.

Integration or multimodal coordination at the institutional level?

The table below presents two possible models for structuring the public transport authority and its relationship with the Hanoi People’s Committee.

The first model corresponds to the current situation. This model requires a high level of coordination between the transport governing bodies. This coordinating role would be attributed to the strategic level, that is to say, to Hanoi People’s Committee.

The second model presents multimodal integration at the institutional level, with an transport authority incorporating MRB and TRAMOC. This option favours a complementary outlook on modes of transport from the very beginning of the network planning stage. As such, all transport modes (bus, BRT, metro, etc.) can be used optimally in each area. Low capacity transport services can in this way be connected with mass transit networks.

Whether the approach of coordination (first model) or of institutional integration (second model) is chosen, it is recommended that the Vietnamese authorities facilitate the creation of a unified network as soon as possible:

- in terms of the choice of ticketing system linked to the fares policy which will come into force as soon as the metro lines begin service.

- in terms of the creation of a operation control centre (OCC) which will allow communication of information to service users, particularly when services are limited or delayed.

- in terms of station planning, in order to promote connections between bus and metro services, but also with other modes, by including plans for the creation of pedestrian access and parking for cars, motorbikes and bicycles from the beginning of the planning stage.
Case study 2: Operation of STIF

Transport organisation in Île-de-France and STIF’s missions
Île-de-France contains a concentration of local authorities: the regional council; 8 county councils including the city of Paris; 1,281 municipalities, which in turn form 155 inter-community cooperation statutory authorities. Since it is the capital city region, the State plays a specific role in the organisation of transport.

Established in 1959, the Transport Authority of Île-de-France Region (STIF) was controlled by the State until 1st July 2005. Until this date, the State held the majority of seats as well as the chairmanship on STIF’s Board. The State withdrew from the organisation well after the decentralisation of the management of urban transport to local authorities in the rest of the country, and two years after the regionalisation of the rail network. At present, the French State is no longer represented on the Board of STIF, in which the regional council now holds the majority of seats and the chairmanship. Two new representatives have been included in the Board: one representative from the financial community and one representative from an inter-community cooperation statutory authority. STIF is managed by a Board of 29 members and chaired by the president of the regional council of Île-de-France.

STIF is in charge of one of the big network in Europe:

- **RER**: 5 lines, 1,525 km, 448 stations, 1,167 millions trips/year
- **Métro**: 14 lines, 217 km, 300 stations, 1,524 millions trips/year
- **Tramway**: 4 lines, 42 km, 70 stations, 114 trips/year
- **Bus**: 1,449 lignes, 24,660 km, 32,024 buses stations, 1,332 trips/year

STIF is an integrated transport authority for all modes of transport in the entire territory of Île-de-France. Its main missions are:

- making decisions on public transport, prices, services offered, service quality targets;
- contracting operators to run the network and monitoring their activities;
- making mobility plans;
- researching and managing investments to modernise and develop the network;
- planning for intermodality;
- all of the above whilst ensuring sustainable and balanced finances.

The 2011 operating budget for collective transport in Île-de-France was €8.34 billion (cf figure 10).
Relationship with transport operators

In Île-de-France, public companies manage the operation of urban rail networks: RATP, the long-standing operator of the Paris metro, and SNCF, which runs the railway network nationwide. Moreover, 76 private operators, mostly subsidiaries of VEOLIA TRANDEV, KEOLIS and RATP DEV groups, have joined together to form a professional association: Optile.

The urban rail service in Île-de-France is not competitive. Therefore, there is no call for tender process. However, these services are regulated by contracts signed between STIF and each operator which define the levels of service they will provide in return for a previously agreed payment.

The strategic aims determined by STIF are transformed into targets and commitments by businesses, concerning the level, quality and cost of the service provided to travellers. These contracts concerning targets and means are signed for a duration of four years. They provide a framework within which the contracting parties take on the responsibility for their roles and missions in the organisation and development of transport in Île-de-France.

To ensure the service is carried out according to the terms of the contract, STIF sets performance measuring indicators with the operators. These are linked to targets and financial incentives. The new contracts signed in 2012 clarified the incentives and stated the priority given to punctuality and information provided to service users.

Since 2005, STIF has put in place an ambitious policy of network modernisation and development. During the State’s chairmanship of STIF, the public transport network experienced a long period of under-investment. Therefore, by 2016, the entire rolling stock of trains in the region will be entirely new, recent or renovated. This operation will cost €4 billion, 50% of which will be provided by STIF.

STIF has also signed contracts giving transport companies (RATP, SNCF, but also the members of Optile) a project management role. For the period 2008-2011, RATP and SNCF took on €7 billion of investment, compared to €5 billion for the previous contracts.
Case study 3: operation of SYTRAL

Greater Lyon metropolitan area, capital of the Rhône-Alpes region, has a population of around 1.5 million. However, many daily journeys are made into the city by people living outside the metropolitan area. Out of the 790,000 posts in Lyon Urban Community, 19% are held by employees who live outside the metropolitan area and travel to work each day in the city\(^1\). Home-work journeys in the metropolitan area are 7.7 km long on average. 4.2 million journeys are made every day, 34% of which are on foot, 2% by two-wheeled vehicles, 17% by public transport and 47% by car. An inhabitant of Greater Lyon makes 3.4 journeys per day, lasting a total of around 67 minutes and covering 13.7 km on average.

In France, responsibility for transport is divided between the various authorities in the following manner:

- the transport authorities are responsible for mobility planning and organising urban transport networks (bus, tram, metro, etc.)
- the county councils are in charge of the organisation of inter-city transport and school services within their jurisdiction falling outside urban transport boundaries.
- Since 2002, regional councils have been responsible for the organisation of the rail network.

**SYTRAL, a city transport authority**

In Lyon, Rhône county council and Lyon Urban Community collaboratively established a joint association for public transport, SYTRAL, in order to coordinate their activities. SYTRAL’s targets are:

- Financing the public transport network (metro, tram, trolleybus and bus) and its development.
- Project management and maintenance of infrastructure and equipment belonging to SYTRAL.
- Choosing the transport services best adapted to demographic, financial and urban developments (itineraries, frequency, etc.)
- Delegating the operation of the network to external operators. This involves checking the operator’s fulfilment of commitments and imposing sanctions for non-compliance.
- Setting and monitoring levels of service quality (regularity, availability, cleanliness, safety, measures against fare-evasion...).
- Defining an appropriate pricing policy.

SYTRAL is in charge of the first public transport network after Paris in France in terms of supply and use. It runs 5 modes of transport:

- **Métro**: 4 lines, 178 cars, 43 stations, 30 km
- **Ropeway**: 2 lines, 6 cars, 1.2 km
- **Tramway**: 4 lines, 83 cars, 81 stations, 50 km
- **Trolleybus**: 9 lines, 131 vehicles
- **Bus network**: 121 lines, 1,000 vehicles
- **Service scolaire**: 141 lines, 112 vehicles

1.4 million journeys per day are made on the urban public transport network. In 2012, SYTRAL’s budget was 836.4 million. The transport payment, a tax on private and public employers in the area, makes up 32% of this amount. The income from fares represents 24% of the total income of the public transport authority. SYTRAL also relies on loans to meet the costs of its investments. This accounts for 22% of its budget. The remaining 17% comes from local authorities. The State contributes only 3%.

In order to manage this network, SYTRAL contracted a private transport operator following a call for tender (see case study below). In 2012, 45% of the budget went towards the operation of the network. 37% of the budget was needed to meet investment costs. The operating budget for the transport authority, which employs around one hundred people, accounts for only 1% of SYTRAL’s expenses.

\(^1\) http://www.urbalyon.org/AffichePDF/Observatoire_Deleplacements_-_Publication_n-7_-_les_deplacements_domicile-travail-3202
Figure 11: Budget of SYTRAL (SYTRAL, 2012)
IV - OPERATIONAL LEVEL:
TRANSPORT OPERATORS

What is the operator's role?

The operator’s role depends on the delegation system put in place by the transport authority. It is the transport authority’s responsibility to define the role of the organisation(s) in charge of operation and maintenance.

How many transport operators?

The authority will first define the operators’ areas of activity:

• One operator for each urban rail line and one operator for the bus network

In this case, the authority will define the level of integration possible at the operational level. This means taking on an important coordinating role. This requires significant expertise on the part of the transport authority in order to keep up-to-date with different contracts with the operators and to ensure integration of the transport network.

The authority would therefore take responsibility for the fare tables, the ticketing system, traveller information and timetable coordination. It would also take charge of interruptions to the service which may require replacement services to be put in place by another operator. In a report published in January 2012, Japan International Cooperation Agency (JICA) stated that this system involves the highest level of operating costs. Since the operator could not ensure the coordination between different lines, it would have less incentive to perform well.

• A single operator for all urban rail lines

In the same report, JICA states that the most financially efficient model involves integration on an operational level, that is, where the operation of all urban rail lines is managed by a single operator. The report also notes that this is the most widespread system in large cities. However, since line 1 is contracted to Vietnam National Railway Administration (VNRA) and line 5 to a public-private partnership (PPP), the Japanese funding agency is of the opinion that these two lines should be operated separately. On the other hand, lines 1, 2 and 3 could be managed by a single operator.

What roles are assigned to the operator?

The operator’s responsibilities may be limited to the simple operation of the public transport system. In this case, its activities may include maintenance of equipment and infrastructure as well as cleaning stations. If there are several operators, it is preferable for the transport authority to centralise traveller information and management of the ticketing system. In some countries, operators’ roles go beyond the transport function to include involvement in the real estate surrounding stations.
Figure 12: Two kinds of potential institutional organizations (with top- and without bottom- integration at operational level)

STRATEGIC LEVEL
TACTICAL LEVEL
OPERATIONAL LEVEL
Why choose a contractual agreement?

By signing a contract with a public or private operator, the two parties can establish common procedures. This system gives the operator an incentive to run the transport system more efficiently by taking on commitments in terms of the operation costs, the income or both. In this case the transport authority must put a system in place to monitor the operator’s performance in order to tailor the next contract to the operating conditions.

If the operator runs the network outside of a contractual agreement, this can lead to an unplanned rise in operating costs which must be met by increased funding from the transport authority. In certain countries, managing the payment of salaries outside a contract can be very difficult. The length of contracts generally depends on the level of risk accepted by the operator.

At what levels should the operator be involved? What level of risk should the operator accept?

The transport authority must state its operator’s level of involvement. The ownership of the infrastructure and the equipment is one of the first points to consider. If the authority is the owner, it can decide to simply pay the operator according to the number of kilometres covered. In this case the operator has a very limited role. The transport authority takes on all responsibility for organising the coordination of network services.

If the operator runs the network outside of a contractual agreement, this can lead to an unplanned rise in operating costs

The operator can also be paid according to the level of use of the transport system. In this second case, it is appropriate to give the operator a certain flexibility so it may try to make the network more appealing (prices, bus services connecting to metro lines, etc.). In order to reduce the operating deficit, it is sometimes advisable to let the operator take on responsibility at the tactical level since its expertise on the services offered and its knowledge of service users can be useful for better adapting services to the public’s needs.

When the contract is part of a public private partnership (PPP), the infrastructure and equipment is the property of the operator. The investment risk is with the operator, which makes a long-term contract necessary.

What use should be made of private operators? Should the operation of the network be competitive?

Depending on the national legislative context, the market may or may not be open to private companies. A competitive public transport industry can give operators the chance to introduce technological or organisational innovation which better meets the strategic and tactical aims of policy makers. Currently in Vietnam, the law does not allow private operators to be involved in the urban rail network (decision 14/2011/QD-TTg).
Case study 4: public service delegation in Lyon

Organisation of operation and maintenance

In Lyon, the elected representatives in charge of transport made the choice to delegate responsibility for public transport services, considering that this was the most efficient means of managing the network and its staff of 4,300. SYTRAL makes a call for tender every six years, when the urban transport companies compete to provide the offer best adapted to the needs defined.

For the whole network, only one contract is signed. Even if this unification of the market reduces the number of potential competitors, it is the system which SYTRAL has chosen in order to simplify the effective integration of the network. Dividing the network into different forms of transport was judged too complex in terms of interfaces and contracts.

The contract signed with the operator includes performance obligations, excepting a few specific sectors which are given resource-oriented targets. Measurable, numerical performance obligations are set: quality of service, measures against fare-evasion, etc. The operator’s missions are stated in the contract as well as the fixed-rate sum it will receive for six years. Payment is only on condition of services having been provided and bonuses or penalties may be issued according to whether targets have been achieved or not. The operator may only delegate responsibility to another service provider with the prior accord of the transport authority.

Role of the transport authority

• defining general transport policy, service levels and characteristics
• setting fare policy
• stating the operating company’s targets
• acting as the contracting authority for all necessary technical means, equipment and infrastructure
• providing the operating company with all tangible and intangible assets needed to run Lyon’s public transport system

Role of the operating company

• implementing the transport policy defined by the transport authority
• performing the tasks entrusted to it, namely:
  - providing transport services (regular, school and special event services)
  - distribution and marketing of tickets and passes
  - ensuring the system’s safety
  - maintaining and cleaning service equipment and facilities
  - providing continuity of service
• storing technical, economic, commercial and financial data concerning service management
• assisting the organising authority, in particular by conducting studies
**The call for tender process**

The competitive tendering process lasts approximately three years. It begins with the creation of the tender application documents which must provide the potential candidates with detailed information in order to encourage competition, ensure fair consideration and define the contractual framework. It is important to involve all potential stakeholders from the beginning, in order to coordinate their different inputs and ensure that "real time" approval is given from the SYTRAL Board of Directors.

After the call for tender process is launched, SYTRAL responds to the candidates’ queries, organises visits of the main installations on the network and sends additional information. After bids are placed, the offers are analysed. The candidates are then interviewed and may improve their proposal. In 2009, SYTRAL Board of Directors chose to renew the contract with Kéolis for a total sum of nearly €2 billion. The candidates who are not selected receive a compensation payment of €750,000.

<table>
<thead>
<tr>
<th>Provision of transport offer</th>
<th>Passenger information and communication</th>
<th>Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>€1.119 billion</td>
<td>€57 million</td>
<td>€59 million</td>
</tr>
<tr>
<td>2,993 Full-Time Equivalents</td>
<td>85 ETP</td>
<td>86 ETP</td>
</tr>
<tr>
<td>Distribution / Sales</td>
<td>Other customer services</td>
<td>Fighting fraud</td>
</tr>
<tr>
<td>€32 million</td>
<td>€19 million</td>
<td>€75 million</td>
</tr>
<tr>
<td>79 ETP</td>
<td>23 ETP</td>
<td>232 ETP</td>
</tr>
<tr>
<td>Maintenance and assets</td>
<td>Consulting and external consulting</td>
<td>Other support services</td>
</tr>
<tr>
<td>management</td>
<td>€21 million</td>
<td>€117 million</td>
</tr>
<tr>
<td>€497 million</td>
<td>42 ETP</td>
<td>94 ETP</td>
</tr>
<tr>
<td>640 ETP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Other customer services     | Consulting and external consulting      | Other support services |
|总投资: €1.995 billion       | €21 million                             | €117 million |
| 4,273 FTE                   | 42 ETP                                  | 94 ETP |

Figure 13: Budget of SYTRAL (SYTRAL, 2012)
Case study 5: 
Seoul metro line 9

Whilst the first eight lines to be built as part of Seoul metro are operated by public companies, the city authorities in Seoul decided to call on private stakeholders to build and operate line 9 (25.5 km, 25 stations), signing a PPP for a duration of 30 years. Opened in July 2009, this line will be extended by 12.5 km in 2014.

The city authorities had noted chronic shortfalls in the operation of the lines under the control of two public companies and wished to benefit from the comparison with a new line operated by a private company in order to stimulate public sector reform.

According to the terms of the contract, the city authorities guarantee a minimum level of income for 15 years and a termination payment.

A contractual fare was set for this line, but the operator decided to keep the actual fare the same as the other lines.

The operator's main innovation on this line was to run two types of train on the same track: those which stop at every station and those which service only the main stations. The former service takes 54 minutes and stops at 24 stations, whilst the latter service lasts 30 minutes, stopping at the 9 main stations.

This approach was made possible by the early involvement of the operator in the project. The future operator Véolia Transdev – RATP Asia was able to contribute its technical perspective from the beginning. This allowed a quicker transition from the construction to the operation phase and spared fresh investment after construction.

Figure 14: Seoul metro line 9
Case study 6: the operation of the Hong Kong tram network

The imperial Hong Kong tram is one of the icons of the city. The company HK Tramways Ltd, established in 1904, manages a fleet of 163 vehicles which cover more than 6 million kilometres every year. This fully private operator, which employs around 1,000 people, facilitates between 16 and 18 % of public transport journeys on the island of Hong Kong.

There is no operating contract between the government of Hong Kong and HK Tramways Ltd. No subsidy is made to fund the operating costs either. An evolving list of rules on operating standards provides the frame of reference. Operating rights are renewed every five years.

Veolia Transdev – RATP Asia took over the operation of the tram network in 2009. Previously, the tram line, which measures 29.5 km in length, was operated by a real estate company. This company had not invested sufficiently in the maintenance of infrastructure and equipment. Véolia RATP therefore suggested a new development strategy to provide passengers with quality services. Firstly they conducted research to better understand mobility needs and usage on the line. They then developed an approach tailored to demand in order to create a new timetable without overlooking people’s needs.

Investment was made in order to equip the tram line with a new operation control centre. Moreover, traveller information was developed through use of modern technology. Thanks to its experience on an international level, Véolia Transdev - RATP Asia made use of innovative solutions in a very competitive context: 90% of mechanised journeys are made by public transport in Hong Kong.

Figure 15: Hong Kong Tramway

Photo credits: Hong Kong Tramways Ltd
Case study 6:
operation of Paris metro line 7

The majority of Paris’s metro network was built over a hundred years ago. The network includes 14 lines covering over 200 km within a very compact area. With 1.5 billion service users per year, the Paris metro network is one of the world’s busiest. It is managed by RATP, a public company which also runs two RER lines (the regional train network, which transports 450 million travellers per year) as well as 340 bus lines and 3 tram lines.

The Paris metro employs around 10,000 staff in its various specialised and operational units (organised individually for each line). Within the company, one metro line corresponds to an operational unit containing 5 hubs: transport, spaces and services, technical, human resources, finance and management. Line 7, which is 19.2 km long, includes 38 stations and 71 trains, and has a staff of almost 950 agents, including 330 drivers in 4 different terminals and 380 commercial agents in 3 different sectors (north, centre and south). There is a three-shift rotation (day, mixed and night) to allow for an extensive service (5 a.m. to 1.30 a.m. during the week and until 2.30 a.m. on Friday and Saturday).

One of the main challenges for the service operator is ensuring the maintenance of the infrastructure and vehicles of the Paris metro in order to guarantee a high quality service without disrupting the service for travellers. The maintenance of all RATP vehicles is carried out by a single department which employs 3,200 people. Across approximately sixty different sites, they take responsibility for a fleet of more than 4,000 vehicles (metro, RER and trams) and 16 different types of stock.

RATP has developed a long-term maintenance strategy in order to provide safe, reliable and readily-available equipment, however dated it might be. Thanks to this, certain pieces of equipment which were expected to last 30 years have managed to survive beyond 45 or even 50 years. Moreover, RATP manages to keep the number of vehicles in repair below 10% of the stock. This success in maintaining vehicles and infrastructure is a source of major financial gain for the company.
CONCLUSIONS

MRB is currently in deliberation about the system which should be put in place for the operation and maintenance of urban rail. When reflecting on this question, an important element to consider is the organisation of the transport system as a whole in order to meet the objectives set by Hanoi People’s Committee.

In order to guarantee a high level of use, a quality transport service should be offered to travellers. This implies an integrated transport offer which on the one hand enables easy use and on the other hand makes possible a reduction in operating costs.

The implementation of such a system can involve either integration or coordination of activities. These two options are possible at the different levels described in this document: strategic, tactical and operational.

Certain questions linked to the integration of the network are already being asked, specifically in terms of tactical choices, beginning with the selection of a ticketing system and the decision of whether or not to create a centralised operation control centre. Moreover, making provisions for coordination between different parties is needed when it comes to station planning and the consideration of other means of transport (bus, parking, etc.), in order to create real multi-modal hubs. The intersection between lines 1 and 3 at Hanoi central railway station is an example of an instance where coordination is needed.

As building work progresses, these sorts of questions will become more and more numerous. The issue of the capital’s road traffic layout, the restructuring of the current public transport network and the pricing policy should also have an impact on the deliberations of the Vietnamese authorities.

In the short term, it is both essential and urgent to coordinate technological and organisational choices on the one hand and stakeholders involved in the construction phase on the other hand. Hanoi People’s Committee is strongly advised to create an ad hoc coordination committee as soon as possible. Following this, a transport authority should be established to prepare for the opening of the first metro lines and manage operating and maintenance activities. By handing responsibility for metro lines 2, 2a and 3 to a single operator, MRB could reduce the level of coordination needed on the operational level in order to concentrate on the coordination effort at the tactical level.


MEKIN (2012), *The Transition of TRAMOC to a Transport Authority : Principles and issues*, (working paper).


ORGANISERS

Agence Française de Développement (AFD)

A public organisation, Agence Française de Développement (AFD) has been working for over seventy years to fight against poverty and promote development in the global South and in overseas French territories. It executes the development policy defined by the French government. AFD is present on four continents, where it has a network of 70 agencies and representative offices. It provides funding and guidance to projects which improve people’s living conditions, support economic development and protect the planet, in areas such as schooling, maternal health, support for farmers and small businesses, access to basic services (water, transport, energy), tropical forest conservation and the fight against global warming, etc.

In the period 2006-2012, AFD provided €785 million of funding to Vietnam, which benefited several million people. Vietnam is one of the major recipients of AFD funding worldwide. According to its country intervention framework for 2013-2015, AFD will concentrate on three main targets in Vietnam: promoting efficient cities, equipped to provide sustainable solutions to their inevitable growth; foster intensive and fair economic growth which will both create employment and limit the use of natural resources; and continue to support the Vietnamese strategy to fight against climate change.

CODATU

CODATU was founded following the global conference on urban transport in Dakar in 1980. It is an organisation which works on an international level to promote events which facilitate the exchange of scientific, technical, economic and social knowledge on urban and peri-urban transport systems; it supports skill sharing between developing and long-standing industrialised countries. CODATU’s activities centre on four areas:

1. Conferences and seminars: CODATU’s international conference brings together professionals in the field every two years. CODATU also organises regional or thematic seminars to bring to light specific experiences and scientific research on sustainable urban mobility in cities in developing countries.

2. Cooperation: CODATU works to promote cooperation between local authorities. It creates links between city councils wishing to share experiences in order to improve their mobility systems. CODATU organises visits from professionals in order to improve policies and reinforce interactions between policy-makers.

3. Training: CODATU organises training sessions aimed at policy-makers in developing countries. It also sends specialists to work with local players in analysing urban mobility and finding appropriate solutions.

4. Publications: CODATU produces documentation: seminar and conference proceedings, guides (methodological, recommendations, good practice). Moreover, the website www.codatu.org is intended as a platform for exchange and information.
IMV, Institut des métiers de la ville (Institute of Urban Professions)

IMV was established in March 2001 by Hanoi People’s Committee and Île-de-France region within the framework of their agreement on international cooperation. It aims to improve project managing skills for town planning (planning regulation, project methodology) and management of urban services (regulation, outsourcing to contractors, service quality, service user information...).

IMV’s activities are based on knowledge and skill-sharing between professionals from the two authorities. IMV is involved in organising seminars for policy-makers or technical managers, researching new areas in Vietnam and conducting pilot projects for infrastructure schemes. IMV promotes responsible city planning and good practice in urban environments by means of expertise and pilot projects. Moreover, IMV ensures that information is communicated to a wide audience thanks to its documentation centre and its translation and publication of French professional works and results of urban research in Vietnam.

IMV’s activities mostly concern city and regional planning, public transport (bus, metro, regional train), access to water supply and hygiene in peri-urban zones as well as treatment and re-use of waste products and finally protection and promotion of tourism in areas of architectural heritage.

PADDI, Research and Support Centre for Urban Development

PADDI was established in 2004 as part of the decentralised cooperation agreement between the Rhône-Alpes region and the province of Ho Chi Minh City. Its aim is to bolster the technical and institutional capabilities of the People’s Committee in terms of urban development. Since it has legal status in Vietnam, PADDI is directly controlled by the People’s Committee.

PADDI’s main activities are ongoing training, technical assistance and supporting research into urban questions. PADDI organises around 40 training sessions on subjects chosen by the Vietnamese authorities according to their priorities. Recurrent themes are transport, urban planning, city services, real estate and sustainable building. The approach adopted may be technical, institutional, operational or scientific. The method is based on the principle of learning from experience: the priority is skills-sharing, but the most important element is adapting methods and tools based on French experience this to the institutional, technical and economic context in Vietnam. Technical assistance can play a role after this initial stage.
The Agence Française de Développement (AFD) co-finance the metro line № 3, considered as a "pilot line" of the future metro in Hanoi. The other financial partners for this project are the French Directorate General of the Treasury (DG Treasury), the Asian Development Bank (ADB) and European Investment Bank (EIB). Other metro lines financed by other sources are in progress. Projects are assigned to different project owners (Ministry of Transport, Vietnam National Railways and Hanoi People's Committee).

Given the multitude of actors, the main challenge now is to integrate these lines, both technical and institutional. For the sake of consistency and optimization of future public transport network, AFD held November 19, 2012 a seminar to assist the Hanoi People’s Committee in its choice of management and operation of the public transport network.

The theme of the seminar was the "Management and operation of Hanoi’s mass transport system". It was to provide avenues for discussions and planning for the development of future transport network in the Vietnamese capital drawing on examples in France and East Asia. This report seeks to raise the key issues and the main conclusions of the seminar.